

21. A channel according to Claim 20 wherein the other cation channel sub-unit of P2X2 ATP-gated channel sub-unit.

16.

24. A recombinant vector comprising a nucleic acid as defined in Claim 22.

25. A recombinant vector comprising a nucleic acid as defined in Claim 23.

26. A recombinant host cell comprising the nucleic acid of Claim 22.

27. A recombinant host cell comprising the nucleic acid of Claim 23.

incubating the host cell of Claim 26 under conditions which allow the DNA sequence to be expressed, and isolating the protein from the host.

29. A method of producing a proton-gated cation channel, incubating the host cell of Claim 27 under conditions which allow the DNA sequence to be expressed, and isolating the protein from the host.

30. A method for screening compounds useful as proton-gated cation channel ligands, which comprises the steps of:

contacting a cell bearing at its surface a channel as defined in Claim 16 with said compounds; and

selecting the compounds that bind to said channel as ligands.

31. A method of screening compounds useful as proton-gated cation channel ligands, which comprises the steps of:

contacting a cell bearing at its surface a channel as defined in Claim 21 with said compounds; and

selecting the compounds that bind to said channel as ligands.

32. A composition or kit for screening compounds useful as proton-gated cation channel ligands, which comprises a cell population expressing a channel as defined in Claim 16 at its surface, and auxiliary components assisting the binding and the detection of the binding of said ligands to said channel.

33. A composition or kit for screening compounds useful as proton-gated cation channel ligands, which comprises a cell population expressing a channel as defined in Claim 21 at its surface, and auxiliary components assisting the binding and the detection of the binding of said ligands to said channel.--

Remarks

The above amendments are being made to eliminate multiple dependencies in the claims and incorporate new claims 16-33 into the application.

No fee is believed necessary to enter this amendment. However if a fee is necessary, please charge Deposit Account 17-0055.

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